

IN THE CLAIMS

Without prejudice or disclaimer, please amend claims 5-10 and add new claims 11-16 to read as shown below:

1. (Original) A method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer, comprising the steps of:

homogeneously mixing a preceramic polymer powder, expandable hollow microspheres and a ceramic powder, and molding the mixture to form a molded body;

heating the molded body to expand it;

curing the expanded molded body; and

pyrolyzing the cured molded body.

2. (Original) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 1, wherein the ceramic powder is at least one material selected from the group consisting of Al_2O_3 , ZrO_2 , MgO , SiC , TiC , Si_3N_4 , AlN , TiN , MoSi_2 , WC and mixtures thereof.

3. (Original) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer as according to claim 1, wherein the ceramic powder is added in an amount of 50% by weight or less, based on the total weight of the starting materials.

4. (Original) A method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer, comprising the steps of:

homogeneously mixing a preceramic polymer powder and expandable hollow microspheres, and molding the mixture to form a molded body;

heating the molded body to expand it;
curing the expanded molded body; and
pyrolyzing the cured molded body.

5. (Currently Amended) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 1 ~~or 4~~, wherein the expansion of the molded body is carried out by heating at a temperature of 110~200°C, the temperature range between the softening point and the melting point of the preceramic polymer, to expand the expandable hollow microspheres.

6. (Currently Amended) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 1 ~~or 4~~, wherein the preceramic polymer is at least one polymer selected from the group consisting of polycarbosilane, polysiloxane, polysilazane and mixtures thereof.

7. (Currently Amended) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 1 ~~or 4~~, wherein the preceramic polymer powder is added in an amount of 20% by weight or more, based on the total weight of the starting materials.

8. (Currently Amended) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic

polymer according to claim 1 ~~or 4~~, wherein the expandable hollow microspheres are added in an amount of 20% by weight or more, based on the total weight of the starting materials.

9. The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to ~~any one of claims 1, 4 and 9~~ claim 1, wherein upon heating the expandable hollow microspheres to 110~200°C at atmospheric pressure, the shell is softened and the inner medium is expanded to form spherical hollow spheres having an average diameter of 10~200 μm .

10. (Currently Amended) A highly porous ceramic fabricated from expandable microspheres and a preceramic polymer, in accordance with the method according to claim 1 ~~or 4~~ wherein the highly porous ceramic has a high porosity of not less than 60% and a pore density of not less than 10^8 pores/cm³.

11. (New) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 4, wherein the expansion of the molded body is carried out by heating at a temperature of 110~200°C, the temperature range between the softening point and the melting point of the preceramic polymer, to expand the expandable hollow microspheres.

12. (New) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 4, wherein the preceramic polymer is at least one polymer selected from the group consisting of

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polycarbosilane, polysiloxane, polysilazane and mixtures thereof.

13. (New) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 4, wherein the preceramic polymer powder is added in an amount of 20% by weight or more, based on the total weight of the starting materials.

14. (New) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 4, wherein the expandable hollow microspheres are added in an amount of 20% by weight or more, based on the total weight of the starting materials.

15. (New) The method for fabricating a highly porous ceramic from expandable microspheres and a preceramic polymer according to claim 4, wherein upon heating the expandable hollow microspheres to 110~200°C at atmospheric pressure, the shell is softened and the inner medium is expanded to form spherical hollow spheres having an average diameter of 10-200 μm .

16. (New) A highly porous ceramic fabricated from expandable microspheres and a preceramic polymer, in accordance with the method according to claim 4 wherein the highly porous ceramic has a high porosity of not less than 60% and a pore density of not less than 10^8 pores/cm³.